

REMARKS

In the April 29, 2004 Office Action, claim 2 was objected to because of a grammatical error and claims 1-8, 19 and 20 stand rejected in view of prior art, while claims 9-12 were indicated as containing allowable subject matter. Claims 13-18 and 21-28 were withdrawn from consideration. No other objections or rejections were made in the Office Action.

Status of Claims and Amendments

In response to the April 29, 2004 Office Action, Applicant has only amended claim 2 to correct a grammatical error as indicated above. Claims 9-12 have not been rewritten in allowable, because Applicant believe that the prior art of record *fails* to render claim 1 unpatentable. Thus, claims 1-28 are pending, with claims 1, 19 and 20 being the only independent claims. Reexamination and reconsideration of the pending claims are respectfully requested in view of above amendments and the following comments.

Interview Summary

On August 4, 2004, the undersigned conducted an interview with Examiner Schwartz, who is in charge of the above-identified patent application. Applicant wishes to thank Examiner Schwartz for the opportunity to discuss the above-identified patent application during the Interview of August 4, 2004.

During the interview, it was agreed that the Restriction Requirement was improper and would be removed. In other words, it was agreed that withdrawn claims 13-18 and 21-28 would be examined and that a final rejection would not be issued, unless the withdrawn claims 13-18 and 21-28 are allowed and the prior rejection is deemed proper.

Regarding the prior art sole rejection, claims 1, 19 and 20 were discussed relative to the rejection under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,615,933 to

Kidston et al. In particular, the undersigned explained that the independent claims 1, 19 and 20 require a device or method that includes:

- (1) a plurality of braking modes with each of the braking modes having a ***different braking control priority*** for a target regenerative braking force, a target hydraulic braking force and a target electric braking force;
- (2) determining a required braking force for an entire vehicle; and
- (3) setting the target regenerative braking force, the target hydraulic braking force, and the target electric braking force ***based on the braking control priority of the selected braking mode*** to produce the required braking force for the entire vehicle.

The undersigned also explained that the Kidston et al. patent discloses an electric power maintenance priority mode. However, the Kidston et al. patent discloses ***only one braking control priority sequence*** for setting a target regenerative braking force, a target hydraulic braking force and a target electric braking force. While different braking forces may be assigned to the different brakes in the Kidston et al. patent, ***only one braking control priority sequence is used***.

Examiner Schwartz indicated that he understood the undersigned position and reasons why the Kidston patent (U.S. Patent No. 5,615,933) should not read on the independent claims that were rejected. However, the Examiner Schwartz had just been assigned the application and indicated that more time would be needed to review the Kidston patent in detail in view of these arguments. Thus, the Examiner Schwartz could not agree that the rejection was improper without further review of the Kidston patent.

Restriction Requirement

In numbered paragraph 1 of the Office Action, Applicant's election ***with traverse*** in was acknowledged. Thus, non-elected claims 13-18 and 21-28 were withdrawn from further consideration and ***not examined***. Also the restriction requirement was made FINAL.

Applicant still maintains that the restriction requirement between the above Species I and Species II is *improper* in that the classification of these species is based solely on claims. The restriction requirement was apparently made because claims 2 and 13 are directed to two different braking modes utilized in the present invention, i.e., an electric power maintenance priority mode and a braking response priority mode. However, as clearly set forth in MPEP 806.04(e), claims are definitions of inventions and *claims are never species*. Species are always the specifically *different embodiments*. Moreover, the claims to be restricted to different species must recite the *mutually exclusive* characteristics of such species. In order for the claims to be mutually exclusive, one claim should recite limitations which under the disclosure are found in a first species but not in a second, while a second claim recites limitations disclosed only for the second species and not the first (see MPEP 806.04(f)). Thus, in the present case, the restriction requirement to the patentably distinct species should be made based on the *different embodiments* of the present invention, but not claims. Moreover, claims 2-12 (Species I) and claims 13-18 (Species II) must be mutually exclusive under the disclosure of the present invention. However, the present application contains only one preferred embodiment which discloses both the electric power maintenance priority mode and the braking response priority mode as the braking modes. In fact, paragraph [0028] beginning at line 5 in page 6 of the specification states:

The braking mode selection switch 15 has two operating positions related to the electric power maintenance priority mode and the braking response priority mode. For example, when the driver desires to reduce the power consumed and increase the power generated by regenerative braking to maintain the electric power of the battery 12, the braking mode switch 15 is set to the electric power maintenance priority mode position. Alternatively, when the driver desires a high generated response of the braking force during braking operation, the braking mode switch 15 is set to the braking response priority mode position.

Clearly, claims 2-12 and claims 13-18 are not directed to separate embodiments of the present invention, but rather claiming different aspects of the preferred embodiment of the present invention. Moreover, the limitations of the electric power maintenance priority mode recited in claim 12 and the braking response priority mode recited in claim 13 are *not* mutually exclusive. Rather, the vehicle braking control system of the present invention preferably switches between these two modes based on the driver's preference or the driving condition. Accordingly, Applicant believes the restriction requirement requiring Applicant to elect one of Species I and Species II is improper.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of the restriction requirement and examination of all claims.

Rejections - 35 U.S.C. § 102

In paragraph 3 of the Office Action, claims 1-8, 19 and 20 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,615,933 to Kidston et al. (hereinafter "Kidston et al. patent"). In response, Applicant respectfully traverse this rejection.

In particular, as explained during the interview, the independent claims 1, 19 and 20 require a device or method that includes:

- (1) a plurality of braking modes with each of the braking modes having a ***different braking control priority*** for a target regenerative braking force, a target hydraulic braking force and a target electric braking force;
- (2) determining a required braking force for an entire vehicle; and
- (3) setting the target regenerative braking force, the target hydraulic braking force, and the target electric braking force ***based on the braking control priority of the selected braking mode*** to produce the required braking force for the entire vehicle.

In the Kidston et al. patent, the front wheels are provided with a regenerative brake 18 and a pair of hydraulic friction brake 36 and 38 and the rear wheels are provided with a pair of electric friction brakes 48 and 50. Basically, the friction brake torque of the Kidston patent is a value obtained by subtracting the regenerative brake torque from the total requested brake torque (for four wheels) as seen in Figure 9. When the regenerative brake is applied, the regenerative braking amount is determined based on the total requested brake torque (for four wheels) (column 6, lines 15-30). The regenerative braking amount is limited by the regenerative torque limit at that point in time. Moreover, the hydraulic and electric braking torques are obtained by apportioning a value (friction brake torque) that is obtained by subtracting the regenerative brake torque from the total requested brake torque (for four wheels) such that the electric brake torque for the rear wheels is calculated based on the hydraulic brake torque of the front wheels to achieve the ideal braking distribution ratio for the front to rear wheels that is well known in the prior art (column 6, lines 45-51).

The Kidston et al. patent discloses *only one braking control priority sequence* for setting a target regenerative braking force, a target hydraulic braking force and a target electric braking force, i.e., an electric power maintenance priority mode, as seen in Figure 7. While different braking forces may be assigned to the different brakes in the Kidston et al. patent, *only one braking control priority sequence is used*. In other words, the Kidston patent fails to disclose a plurality of braking modes having a *different braking control priority* as recited in independent claims 1, 19 and 20. Thus, we believe the Kidston patent fails to disclose each and every limitation in claims 1-8, 19 and 20

It is well settled under U.S. patent law that for a reference to anticipate a claim, the reference must disclose each and every element of the claim within the reference. Therefore,

Appl. No. 10/678,189
Amendment dated August 6, 2004
Reply to Office Action of April 29, 2004

Applicant respectfully submits that independent claims 1, 19 and 20 are not anticipated by the prior art of record.

Moreover, Applicant believes that the dependent claims 2-18 and 21-28 are also allowable over the prior art of record in that they depend from independent claim 1, and therefore are allowable for the reasons stated above. Also, the dependent claims 2-18 and 21-28 are further allowable because they include additional limitations. Thus, Applicant believes that since the prior art of record does not anticipate the independent claim 1, neither does the prior art anticipate the dependent claims.

Applicant respectfully requests withdrawal of the rejections.

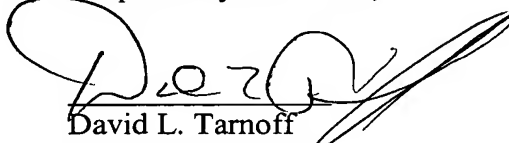
Allowable Subject Matter

In paragraph 4 of the Office Action, claims 9-12 were indicated as containing allowable subject matter. Applicant appreciates this indication of allowable subject matter and the thorough examination of this application.

* * *

In view of the foregoing amendment and comments, Applicant respectfully asserts that claims 1-28 are allowable over the prior art of record. Reexamination and reconsideration of the pending claims are respectfully requested.

Respectfully submitted,


David L. Tarnoff
Reg. No. 32,383

SHINJYU GLOBAL IP COUNSELORS, LLP
1233 Twentieth Street, NW, Suite 700
Washington, DC 20036
(202)-293-0444
Dated: August 6, 2004
G:\08-AUG04-MSM\NS-US035105 response.doc